

SAP and SAN



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SAP is typically deployed in components starting with core R/3 and then expanding into other components like BW,SCM,CRM,APO etc. Our SAP data centers have a series of servers directly connected to private storage (DAS) or multiple servers connected to a centralized storage component(CAS).Either of these configurations places a heavy manpower load on IT for management and business-continuation processes such as backup and database duplication. Additional issues occur with the exponential growth of storage requirements and the need to improve operational efficiency. Storage consolidation provides the answer. Storage, combined with a storage area network (SAN), solves today's problem of the increasing cost and difficulty of storing and managing data.

A storage area network (SAN) is a high-speed special-purpose network (or sub network) that interconnects different kinds of data storage devices with associated data servers on behalf of a larger network of users. Typically, a storage area network is part of the overall network of computing resources for an enterprise

Storage efficiency problem with SAP:

The amount of data stored by SAP customers is growing exponentially. Who started with core R/3 implementations typically have hundreds of gigabytes of data online. As they leverage their core R/3 investment and add modules like business warehouse, supply chain management, and customer relationship management, they see a dramatic rise in the amount of online data requiring management. Storing, managing, and protecting this data is becoming difficult and costly for organizations of all sizes. Buying and adding sufficient disk capacity to cope with application growth; finding staff to manage storage; and having sufficient time to back up critical data are all issues forcing IT departments to reconsider their storage architecture.

A SAN can address the problems of storing, managing, and protecting data in such a growing environment. This kind of networked storage is 55 to 60 % efficient than our conventional Direct Access storage environments. More over there should be an annual decline of tape/disk costs.

In an SAP DAS environment, each server has a dedicated storage array and backup device, each of which is specified with excess capacity (white space) to allow for future storage growth. In reality, much of this additional capacity is unused, but IT managers prefer to have the excess capacity because adding additional storage to disparate groups of DAS devices is time consuming. Typically, capacity utilization in a DAS environment runs at 40 to 50 percent.

In a SAP CAS environment servers are networked to centralized storage devices. This provides the customer with benefits from centralized storage, but they have the same capacity issues. Storage additions need to be made individually for each server, and allocation on the centralized storage device needs to be handled on an application-by-application

Moving to a SAN allows storage for multiple servers to be pooled into one physical or logical unit. All white space is also pooled and, as a result, less excess capacity is actually needed because each server can request additional capacity from the central pool as needed. In other words, pooled storage can be shared among servers on the network. Typically, in a SAN environment, capacity utilization runs at 80 percent.

As you expand your SAP environment, future capacity increases can be deferred and IT departments can benefit more readily from the annual 40-percent decrease in disk/tape costs. Many long-time SAP customers are now looking for and implementing archiving solutions for their environments. Archiving data to SAN-attached libraries is easier to accomplish. Instead of adding spare capacity for each server in advance and watching each server's storage demands grow at varying rates, overall capacity growth can be smoothed out and new capacity added in a more gradual, logical manner.

SAN efficiency: benefits summary:

The benefits of moving from a DAS or CAS environment to a SAN are many. You increase operational, capacity, and utilization efficiencies and reduce LAN traffic, and you can utilize your resources more efficiently to manage your business. In addition, you gain the ability to manage storage at an enterprise level rather than a per application or per server basis. And you can use a single storage device—disk or tape—to support multiple applications and servers. Incorporating a SAN environment into your data center provides you with an unparalleled opportunity to manage your data instead of letting your data manage you!